

REMARKS

Claims 1-85 are now pending in the application. Claims 1, 13, 31, 35, 43, 57, 61, 69, 73 and 82 are amended. Claims 86-95 are newly added. The amendments and limitations of the new claims 86-95 are disclosed in the specification as filed and thus do not introduce new matter. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Applicants would like to thank the Examiner for courtesy extended during the Interview on June 27, 2007.

DOUBLE PATENTING

Claims 1, 17, 35, 47, 61 and 73 are rejected on the ground of nonstatutory double patenting over claim 1 of U.S. Patent No. 7,133,473. Claims 2-16, 18-34, 36-46, 48-60, 62-72, and 74-85 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2-70 of U.S. Patent No. 7,133,473. This rejection is respectfully traversed. As discussed in the Interview, the nonstatutory obviousness-type double patenting rejections are improper. The Applicants, respectfully, request that the rejections be removed, especially in view of the amendments provided herein. Although unnecessary, Applicants reserve the right to file a terminal disclaimer in the future.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 2, 4, 5, 11, 36, 38, 39, 41, 61, 62, 64, 65 and 67 are rejected under 35 U.S.C. § 102(b) as being anticipated by Claydon et al. (U.S. Pat. No. 6,154,871).

With respect to Claim 1, Claydon does not show, teach or suggest at least a space-time block decoder for a wireless communications system. The space-time block decoder includes a demodulator that generates a demodulated symbol sequence by derotating a signal constellation of a received symbol sequence that is decoded based on a space-time block code.

The invention as recited in Claim 1 demodulates a space-time block code. Space-time block code refers to the encoded transmission of blocks of symbols over multiple transmit antennas. An encoded symbol sequence is transmitted and received over different space and different time intervals. See the Background of the Invention section of the present application.

As best understood by Applicants, Claydon discloses demodulation of a convolutional encoded data sequence. The convolutional encoded data sequence is encoded via simply a code, which may be used as an outer code. Claydon does not disclose transmission of encoded data over multiple antennas. Thus, Claydon does not disclose demodulation of a space-time block encoded data sequence.

The invention as recited in Claim 1 allows for demodulation of a space-time block encoded and an outer encoded data sequence. The demodulation provides the advantage of subsequently performing branch metric determination of each dimension of the demodulated symbol sequence. This simplifies branch metric computations.

For anticipation to be present under 35 U.S.C §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. *Scripps Clinic & Res. Found. V. Genentech, Inc.*, 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be

inherent or expressly disclosed and must be arranged as in the claim. *Constant v. Advanced Micro-Devices, Inc.*, 7 USPQ.2d 1057 (Fed. Cir. 1988).

Applicants submit that Claim 1 is allowable for at least the above reasons.

With respect to Claim 1, Claydon also fails to show, teach or suggest at least a demultiplexer that is subsequent to a demodulator and that generates in-phase and quadrature components of a demodulated symbol sequence. Referring to FIG. 2 of Claydon, in-phase and quadrature components are received by a de-rotator 104. Thus, the relationships between the components of Claydon are different. Therefore, Claim 1 is also allowable for at least the above additional reasons.

Claims 35 and 61 are allowable for at least similar reasons as Claim 1. Claims 2-16, 36-46, 62-72 and 86-94 ultimately depend from Claims 1, 35 and 61 and are allowable for at least similar reasons.

Claims 17, 47 and 73 are rejected under 35 U.S.C. § 102(e) as being anticipated by Vasquez (U.S. Pat. No. 7,046,747).

With respect to Claim 17, Vasquez does not show, teach or suggest at least a space-time block decoder that communicates with at least one receiving antenna and that generates a user data sequence based on a received symbol sequence.

As best understood by Applicants, Vasquez discloses a Viterbi decoder for decoding a convolutional encoded data sequence. Again, such decoding is different than space-time block decoding. Thus, Vasquez does not disclose a space-time block decoder.

For at least the above reasons, Vasquez also fails to show, teach or suggest at least a space-time block decoder that includes a branch metric computation module.

Therefore, Claim 17 is allowable for at least the above reasons. Claim 47 is allowable for at least similar reasons as Claim 17. Claims 18-34, 48-60 and 95 ultimately depend from Claims 17 and 47 and are allowable for at least similar reasons.

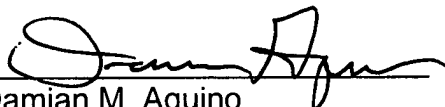
With respect to Claim 73, Vasquez also fails to show, teach or suggest at least receiving a symbol sequence that is decoded based on a space-time block code and generating user data based on that symbol sequence. Since Vasquez fails to disclose a space-time block decoder, Vasquez does not and cannot disclose space-time block decoding. Thus, Claim 73 is also allowable. Claims 74-85 ultimately depend from Claim 73 and are allowable for at least similar reasons.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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